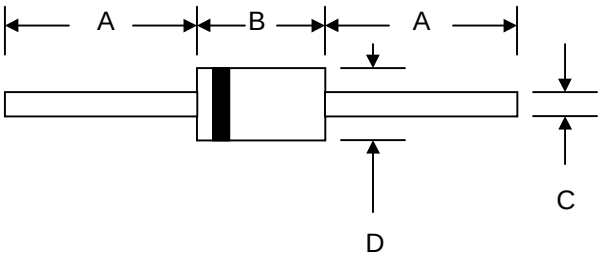
# FR101G – FR107G

## 1.0A GLASS PASSIVATED FAST RECOVERY DIODE

## Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability




| DO-41 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 25.4 | — |
| **B** | 4.06 | 5.21 |
| **C** | 0.71 | 0.864 |
| **D** | 2.00 | 2.72 |
| **All Dimensions in mm** | | |

## Mechanical Data

- Case: DO-41, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**

## Maximum Ratings and Electrical Characteristics @$T_A$=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | FR101G | FR102G | FR103G | FR104G | FR105G | FR106G | FR107G | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @$T_A$ = 55°C | $I_O$ | 1.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 30 | | | | | | | A |
| Forward Voltage @$I_F$ = 1.0A | $V_{FM}$ | 1.3 | | | | | | | V |
| Peak Reverse Current @$T_A$ = 25°C<br>At Rated DC Blocking Voltage @$T_A$ = 100°C | $I_{RM}$ | 5.0<br>100 | | | | | | | µA |
| Reverse Recovery Time (Note 2) | $t_{rr}$ | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance (Note 3) | $C_j$ | 15 | | | | | | | pF |
| Operating Temperature Range | $T_j$ | -65 to +150 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to +150 | | | | | | | °C |

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case
2. Measured with IF = 0.5A, IR = 1.0A, IRR = 0.25A. See figure 5.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.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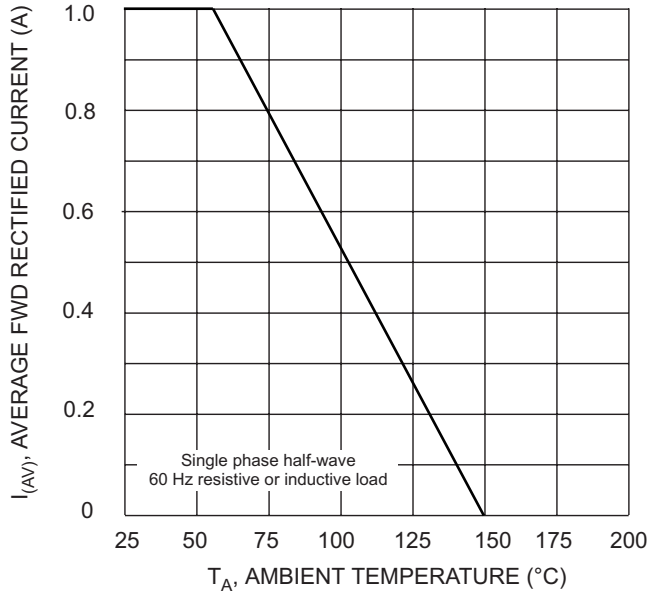



Fig. 1 Forward Derating Curve

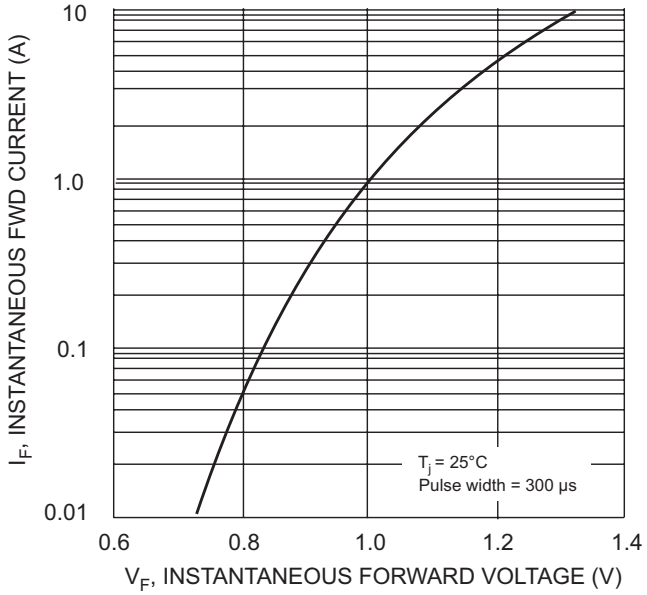



Fig. 2 Typical Forward Characteristics

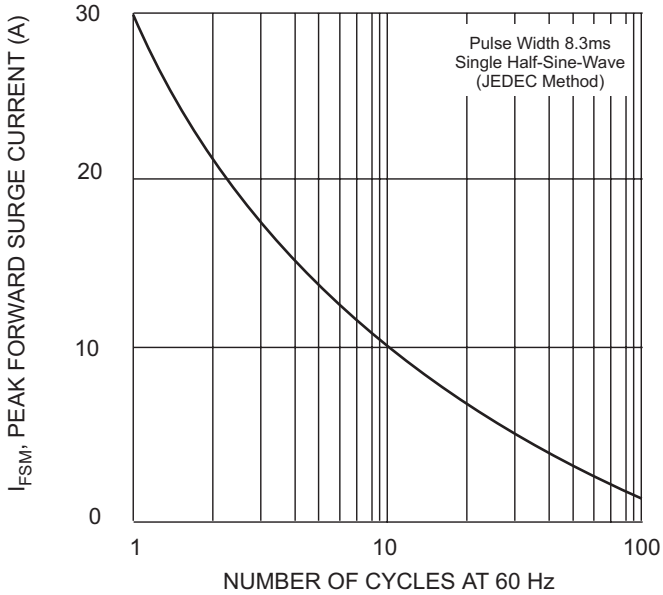



Fig. 3 Peak Forward Surge Current

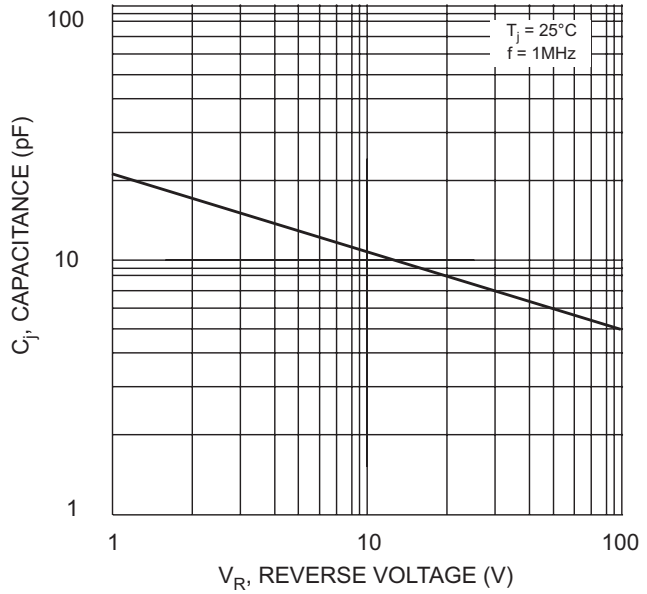
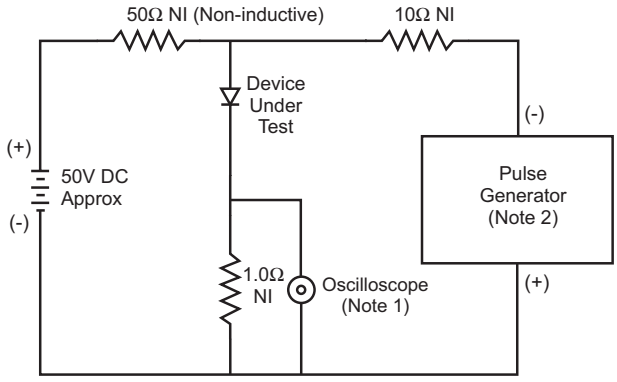



Fig. 4 Typical Junction Capacitance




Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

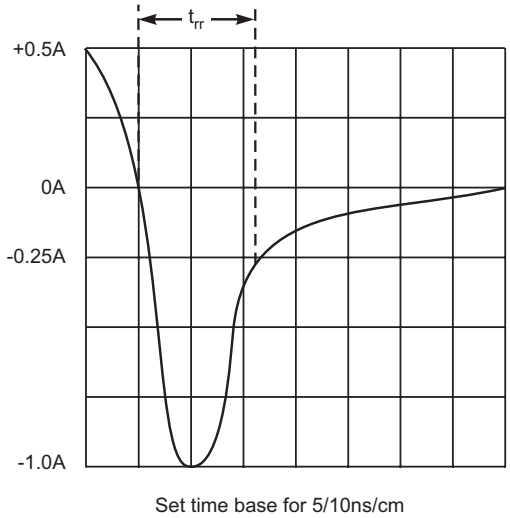



Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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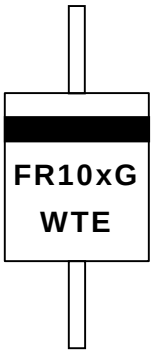
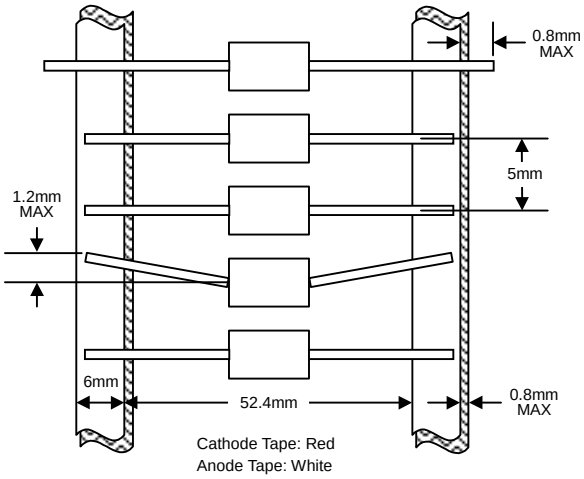
## MARKING INFORMATION



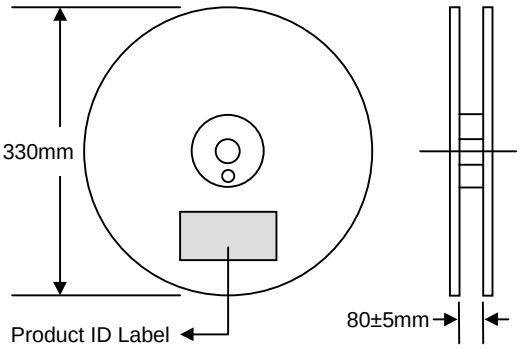

| | |
|---|---|
| Cathode | = Polarity Band |
| FR10xG | = Device Number |
| x | = 1, 2, 3, 4, 5, 6 or 7 |
| WTE | = Manufacturer's Logo |

## TAPING SPECIFICATIONS

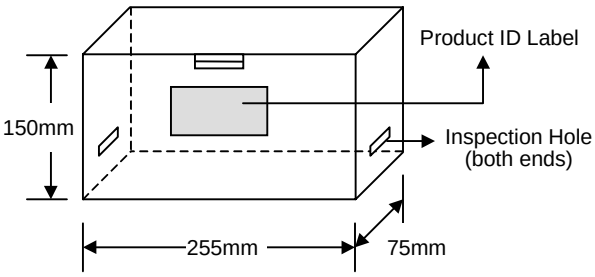



## PACKAGING INFORMATION

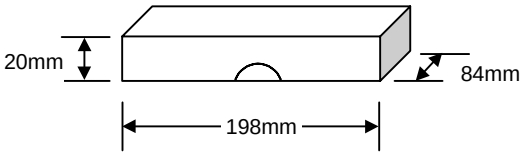
### TAPE & REEL




### TAPE & BOX




### BULK




| Packaging | Reel Diameter / Box Size (mm) | Quantity (PCS) | Carton Size (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|---|---|---|---|---|---|
| **TAPE & REEL** | 330 | 5,000 | 370 x 370 x 420 | 25,000 | 13.0 |
| **TAPE & BOX** | 255 x 75 x 150 | 5,000 | 400 x 273 x 415 | 50,000 | 21.0 |
| **BULK** | 198 x 84 x 20 | 1,000 | 459 x 214 x 256 | 50,000 | 19.5 |

**Note:** 1. Paper reel, white or gray color. Core material: plastic or metal.
2. Components are packed in accordance with EIA standard RS-296-E.

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## ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|---|---|---|
| FR101G-T3 | DO-41 | 5000/Tape & Reel |
| **FR101G-TB** | DO-41 | 5000/Tape & Box |
| FR101G | DO-41 | 1000 Units/Box |
| FR102G-T3 | DO-41 | 5000/Tape & Reel |
| **FR102G-TB** | DO-41 | 5000/Tape & Box |
| FR102G | DO-41 | 1000 Units/Box |
| FR103G-T3 | DO-41 | 5000/Tape & Reel |
| **FR103G-TB** | DO-41 | 5000/Tape & Box |
| FR103G | DO-41 | 1000 Units/Box |
| FR104G-T3 | DO-41 | 5000/Tape & Reel |
| **FR104G-TB** | DO-41 | 5000/Tape & Box |
| FR104G | DO-41 | 1000 Units/Box |
| FR105G-T3 | DO-41 | 5000/Tape & Reel |
| **FR105G-TB** | DO-41 | 5000/Tape & Box |
| FR105G | DO-41 | 1000 Units/Box |
| FR106G-T3 | DO-41 | 5000/Tape & Reel |
| **FR106G-TB** | DO-41 | 5000/Tape & Box |
| FR106G | DO-41 | 1000 Units/Box |
| FR107G-T3 | DO-41 | 5000/Tape & Reel |
| **FR107G-TB** | DO-41 | 5000/Tape & Box |
| FR107G | DO-41 | 1000 Units/Box |

1. Products listed in **bold** are WTE **Preferred** devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, FR101G-TB-LF**.

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